A collaborative knowledge platform to promote the implementation of the Regional Innovation Strategy

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by

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Introduction

We propose here some reflection on the philosophy that guides the implementation of a collaborative knowledge platform on firm and innovation in Region Basse-Normandie (France). Our approach is based on an original mix of the firm and organization theory and social choice theory. The objective is to organize the conditions for a collective production of knowledge in order to contribute to answer the key question : in a context of "agencyfication", how can policy-makers assess and improve effectiveness of innovation policy-implementers set up for the promotion of the Regional Innovation Strategy? (Nauwelaers, 2008).

The means to reach this objective is, according to us, a transcultural forum for exchange, thinking and action planning, in the form of a collaborative knowledge platform grounded on databases. Four kinds of actors are particularly concerned by this platform : small and medium business entrepreneurs, social scientists, innovation policy-implementers and policy-makers. We speak here about *transculturalism* because the aim is to make four kinds of actors collaborate, who tend to speak different languages and to have different mental representations of innovation, public action and business.

There is here a link between epistemology and ethics. The problem of observability can be important for the enterprise of knowledge as well as for a practical reason : each actor's observation is made from a limited perspective. What we can see is not independent of where we stand in relation to what we are trying to see. And this in turn can influence our beliefs, understanding and decisions. This is what Amartya Sen (2009, p. 156) calls "positionally dependent observations, beliefs and choices". Now, epistemology, decision theory and ethics all have to take note of the dependence of observations and inferences on the position of the observer.

In this presentation, we will focus particularly on four aspects of our work, which are also the definition of the four actors' contributions.

1. How the platform allows entrepreneurs to define their needs and to clarify their projects;
2. How policy-makers, seen as elected representatives, can help identifying collective and long term objectives that justify policies setting up (*e.g.* the higher priority for sustainable development), which can be contradictory to the necessary increase of industry competitiveness.

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3. How innovation policy-implementers can communicate and share their respective fieldwork experiences in order to better coordinate their actions and to gain in consistency as well as in relevance.

4. How social scientists can contribute in acquiring better knowledge on the basis of data-gathering and public debate. Eventually, they will help elaborating decision-support tools.

Most of the data emerge from a representative sample[2] in the frame of an original survey (project IDEIS, CPER-Feder, 2007-2013) about the small and medium enterprises in manufacture sectors of the region "Basse-Normandie". They come from interviews with the entrepreneurs on the basis of a set of questions (Gaussens and Houzet, 2009) related to the strategies and the processes of the enterprise.

1st type of actors: the entrepreneurs

The effort of innovation on a territory relies basically upon small and medium size companies leaders' commitment and dynamism. The entrepreneurs' views, judgments or actions related to innovation are based on implicit positions or mental models. The platform's aim is to make the latter clear for entrepreneurs in interaction with the others entrepreneurs and actors, in order to reconsider them possibly to perceive or evaluate innovation in a more pertinent way. The IDEIS survey (2009) allows us to realize some established facts about entrepreneurs' views, judgments or actions related to innovation which constitute, according to us, impediments to the development of innovation in firms. These established facts have been achieved from interviews with the entrepreneurs and can be summed up like this :

- Entrepreneurs have difficulty to assess their own innovative effort. The IDEIS survey reveals that 70% of small and medium firms (size between 10 and 250 employees) in manufacture sectors are innovative in the *Oslo manual* sense; in national and European surveys concerning innovation, this data is around 40% for the French SME whose size is between 20 and 250 employees. How can this distortion be explained? Within the context of interviews leaded for the project IDEIS, the notion of innovation was discussed with each entrepreneur to move along the lines of the Oslo reference book. It has been observed that entrepreneurs visualize the innovation process as a breaking phenomenon in the technological scope (product and process innovation). In contrast, the *Oslo manual* considers innovation in a larger sense: an innovation is the implementation of a new, or significantly improved, product or service, a new method of marketing or a new organizational method in business practices, e.g. the organization of the workplace or external relations. This definition allows to take the non-technological dimension of innovation (business and organizational) into account. In other respects, it allows to understand innovation as a continuum. Thus, for only 26% of enterprises that initiate product innovations, innovation is used to gradually replace existing products, which means that a large majority of companies innovate discontinuously. Finally, regarding the intensity of innovation – which we know very little about since most measures of innovation are qualitative-that is to say discrete (binary or dichotomous, ordered or unordered categorical) –, 76% of enterprises innovate to enhance what exists rather than to do differently and

[2]Random and stratified sample of 70 enterprises in terms of size (from 10 to 250 employees), manufacture sectors ("code naf": 10 to 33) and geographical areas ("zone d'emploi") of the Basse-Normandie region.

38% of innovative enterprise managers do not know the share of innovative goods in terms of turnover sales.

- ***Entrepreneurs use a network mainly limited to their professional sphere to access the knowledge*** they need to innovate, in a rather informal and non cooperative relationship. Indeed, for almost all companies (96%), the main sources of knowledge outside the firm are experienced actors in the market (suppliers, customers, other businesses and competitors, consultants) or general information sources (trade fairs or exhibitions, professional associations and journals, informal networks, government regulations). Consequently knowledge is primarily obtained informally ("open access") with the exception of either "clients" and "providers" frequently through cooperation and other "consultants" mainly as part of a commercial relationship. Furthermore, patents and norms do not represent an important source of new knowledge for the majority of firms.

- ***Entrepreneurs cooperate little to generate new knowledge.*** This may come from difficulties in finding partners, which indeed constitutes an obstacle to innovation for 30% of the companies that feel they do not innovate enough. The key partners in cooperation for innovation are the providers (30% of enterprises) and the customers (20%) while cooperation with the University or other institutions of higher education and with public research institutes respectively concerns 9% and 5% of companies.

- Main businesses innovate to increase their competitiveness mainly through innovation-oriented customer satisfaction. The dominant reasons to innovate appear as the following: "increase or maintain market share" and "new markets". This entails innovation efforts in the areas of products and marketing, an increase in the range of produced goods, an increase in visibility and responsiveness towards customer needs. In contrast, the development of environmentally friendly products is less prominent : difficulties in grasping opportunities on products offered by sustainable development ? In the field of production, innovation is most frequently used to reduce unit costs, to improve the quality of goods and services, and to increase flexibility of production which involves innovative efforts in the areas of process, organization and product (for quality B & S). Factors "meet the technical standards of the industry", "reduce consumption of materials and energy" and "improve the capabilities of information technology" are less mentioned as they involve innovations in the areas of products, processes and organization. Finally, the "reduction of production costs design" is infrequently evoked, while this factor directly impacts the profitability of innovation. In the field of work organization, innovation is overwhelmingly used to increase the adaptability to the customers' demands generating innovations in organizing and marketing. Finally, while improved communication and interaction in business is moderately cited, improved sharing or transferring knowledge is not mentioned.

- Entrepreneurs have difficulty assessing aid policies and innovation support for them. Out of 70% of innovative enterprises, only 38% have received aid – mostly financial support (59% of them) – and 48% of businesses are unaware of innovation aid. While an overwhelming majority (81%) have supported organizations devoted to innovation, 67% of entrepreneurs are unable to judge the effectiveness of innovation policies targeted at them since they "don't know" (54%) or "are not aware of" them (13%).

2nd type of actors: policy-makers

Policy-makers are designing policies based on implicit models of collective action. Clarifying these models thanks to discussions on the platform should help organize a strategy suited to the issue of further innovation efforts required from SME. For example, it is expected that entrepreneurs do not provide a sufficient effort in innovation for the community, given the positive externalities generated by the innovation process. Policies to support innovation are built on this market failure and the corresponding action model is the “allocative innovation” one. Indeed, the motive for subsidizing research on the grounds of its public good character and sub-optimal investments by the market in view of larger societal benefits is well accepted ; nethertheless, it does not seem relevant according to the established facts (IDEIS survey, 2009). An overwhelming majority of entrepreneurs (87%) do not increase their effort of creation or production of knowledge because they are encouraged to do so. Furthermore, a strong majority (89%) of SME do not protect (63%) or only occasionally (26%) their innovations and finally very few (6%) mention the weakness of property rights as a brake on innovation.

The “model of allocative innovation” is based on a random vision of innovation where the process is unknown to the public or private manager. This "black box" vision considers this process as random with a probability of success influenced by incentives. Black-box modeling can be justified, provided it responds effectively and efficiently to the action levers called upon. According to us, this model is not compatible with the challenges of increased innovation efforts on the part of SME.

The innovation capacity is the ability to transform business ideas or knowledge into new products or services valued by the market in a continuous, repeated or sustained effort. Indeed, the challenge of innovation is not limited to develop some key products over which the company make its margins, but it is at the heart of business performance and it determines its durability. From this perspective, innovation is understood as a process, *i.e.* a set of interactions and decisions making by which the company actors transform resources into goods and services whose value is significantly higher. In this context, the innovation process is seen as the support of key business performance insofar as it is performed in an enterprise that is continuously improving the cost-value pair.

This approach allows to look inside the "black box action" of innovation and address the issue of driving innovation. A pilot focused exclusively on evaluation criteria of means and results does not seem to be appropriate to innovation since it is static and discontinuous. By contrast, piloting innovation requires the term of continuous adaptation, taking into account knowledge and technology and interactivity among different actors. For example, internal research is traditionally used as an indicator of the enterprise’s innovativeness and therefore of its performance ; we believe the innovative capacity depends more on the research ability to contribute to innovation.

To deploy the Regional Innovation Strategy (RIS), the policy-makers must overcome "apparently" contradictory objectives, for example, increase the competitiveness of SMEs through innovation and sustainable development. Policy-makers should seek to orient innovation toward the creation of social - and not simply economic value, in enabling the collectivity to make innovation a form of social learning that can’t be achieved at the same rate as technological change.

3rd type of actors: innovation policy-implementers

The implicit adherence to the "allocative model" led policy-makers to promote a way of driving exclusively focused on autonomy and accountability of innovation policy-implementers. This trend, which can be called "agencyfication", reflects the concern of policy-makers (principal) to optimize the activities of policy-implementers (agent) in a context of necessary control of public spending. According to this logic, the pilot focuses primarily on cost-benefit aspects, it relies on individual responsibility by delegating, for example through contract objectives. This steering, which does not interfere with the conduct of activities, has the merit of simplicity, it is likely to motivate and mobilize policy-implementers to become autonomous and responsible.

However, this logic has drawbacks and risks :

-it tends to partition the different "policy implementers," and does not encourage them to cooperate,

-it provides little visibility into the real causes of "policy-implementers" performance.

According to us, a steering logic centered on the deployment of RIS in indicators and targets by analyzing the causes / effects can enter the actual process of innovation. The learning platform is the right tool for the deployment of RIS by allowing a frequently readjusted collective diagnosis to identify the relevant policy levers to effectively coordinate policy-implementers and to ensure the funding of collective experience.

4th type of actors: social scientist

Public action and political conviction draw their legitimacy from objectivity and we have to recognize with John Rawls (1993) that "the first essential is that a conception of objectivity must establish a public framework of thought sufficient for the concept of judgment to apply and for conclusions to be reached on the basis of reasons and evidence after discussion and due to reflection". This is the philosophy that guides the implementation of a collaborative knowledge platform on firm and innovation in Region Basse-Normandie, and the work of the researchers associated to the project.

Since public debate is needed, one of our major methodological concerns is the need to invoke a wide variety of viewpoints and outlooks based on diverse experiences, rather than remaining contented with encounters with others living in the same cultural and social milieu, and with the same kind of experiences, prejudices and beliefs about what is reasonable and what is not, and even what is feasible and what is not. **Positionality of observation** plays an important part in the process of advancing scientific knowledge, which is closely linked to the process of innovation. Indeed, the role of positionality[3] may be particularly crucial in interpreting systematic and persistent illusions

[3] We have to be clear on the fact that positionality is very different from subjectivity. Different types of examples of positional parameters that are not quirks of mental attitudes or psychology, and which can be shared by different individuals, include: knowing or not knowing a particular management tool; being able or not being able to understand specific models; or being rushed by short-term engagements (among a great many similar parametric variations). It does not violate

that can significantly influence – and distort – the entrepreneurs' choices, social understanding of innovation or public policies regarding innovation. Indeed, there are sometimes what can be called "objective illusions" since the belief is positionally objective, but erroneous if we examine it in a larger way. For example, our enquiry shows that the knowledge of what innovation is according to the *Oslo Manual* - the characteristics of innovating firms, and the internal and systemic factors that can influence innovation - would lead enterprises to see that they are much more innovative than they think they are. One of the aims of the collaborative platform is to underline this kind of objective illusions. It would thus allow to overcome local beliefs in the innovation process and positional prejudices concerning the analysis of policies aimed at fostering technological innovation.

Scientific reasoning does not need, of course, to be based on observational information from one specific position only. On the contrary, there is a need for what Sen (1993, p. 130) calls "trans-positional assessment", drawing on but going beyond positional observations. The trans-positional assessment that we might undertake can lead to a broader understanding that makes sense of the respective and possibly divergent positional observation. This perspective is crucial for thinking and implementing innovation policies. In order to break with traditional incentive policies that envisage innovation results exclusively in terms of sufficient ressources, it is important to bring the innovation process to light. This cannot be done without taking into account the way actors view it and what their objective illusions are.

Sen (2009) has shown that, in social choice and public evaluation, objectivity is linked to the ability to survive challenges from informed scrutiny coming from diverse quarters. Reaching a consensus necessarily implies that positional judgments will evolve through deliberation and acquisition of new knowledge. However, we must add that the principles that survive such scrutiny need not be a unique set. In other words, we have to consider the possibility that there may remain contrary positions that simultaneously survive and which cannot be subjected to some radical surgery that reduces them all into one tidy box of complete and well-fitted demands.

In our view, the pure "private model of innovation" – that is dominant not only in business, but more and more in science too – is particularly counterproductive to go beyond positionality and overcome positional illusions. Moreover, considering that the development of innovation is strongly stimulated by cognitive interactions between different actors (Noteboom, 2000), this model characterized by private appropriation of knowledge tends to limit this development. In contrast the pure "open science model" (Foray, 2004) enables to avoid the social loss problem associated with the restricted access to knowledge of the private model, but it creates problems with respect to motivating potential contributors to collective research projects.

Between the two, the knowledge platform can be considered as a framework adapted to develop rules of coordination and interactions enabling contributors to support the dialectic between private capabilities and common ones (Noteboom, 2000; Amesse, Avadikyan and Cohendet, 2006). It is quite similar to the approach developed, for example, in the von Hippel and von Krogh model (2003) for software innovation, which they call "private collective innovation model".

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positional objectivity to make a statement on how the world would look to a person with certain specified 'positional' attributes.

Conclusion

We have tried to show in this presentation that a cognitive or knowledge platform, understood as a collaborative intelligence infrastructure, is appropriate to the design, implementation and evaluation of the Regional Innovation Strategy. This cognitive platform would allow the innovation regional actors to:

-share visions about the stakes and the process of innovation, and make them evolve

-have a strategic intelligence on the features of the regional innovation system,

-get evaluation tools on the one hand for enterprise innovation process, and on the other hand for innovation policy.

While we consider this strategy as the best way to think public action and support regional development, we have to admit that interests and values confrontation will not lead to a magic formula. Nevertheless, debate is viewed as the means to clarify, understand and possibly make needs evolve on a territory.

From various fundamental and applied approaches, we develop an original model of knowledge platform suitable for a local and innovative community based on collaborative intelligence. We contribute to show that the achievement of a Regional Innovation Strategy goes through settlement of cognitive interactions rules between actors to promote social learning behavior, and not only transactional or contractual connections between them, as is the case in the "agency model".

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